

CLAIMS

What is claimed is:

1. An apparatus for forming a continuous sheet from a molten, viscous material comprising:

 a discharge manifold, said manifold having a hollow interior chamber, said chamber having at least one inlet for receiving said starting material and a discharge opening on at least one side for discharging said material, and a roller;

 an endless casting belt mounted adjacent said manifold, said belt facing said discharge opening, said roller rotatably mounted adjacent said endless belt to form a gap between the outer surface of said roller and the surface of said belt and said manifold disposed such that material is received in said gap from said discharge opening, said belt being revolving driven such that said material passes between said gap to form said continuous sheet of material therebetween; and

 a first drive mechanism connected to said belt for causing said belt to revolve.

2. The apparatus as claimed in Claim 1 wherein said roller comprises a stainless steel cylinder; and

 a plastic sleeve that is shrunk on to said cylinder.

3. The apparatus as claimed in Claim 1 further comprising a second drive mechanism connected to drive said roller.

4. The apparatus as claimed in Claim 1 wherein said manifold has a plurality of inlets extending into said interior portion.

5. The apparatus as claimed in Claim 4 wherein each of said inlets is attached to a corresponding adjustable valve.

6. The apparatus as claimed in Claim 1 wherein means are provided for removably mounting said manifold adjacent said endless belt so that more than one type of manifold may be interchangeably mounted adjacent said endless belt.

7. A manifold for forming a continuous sheet from a molten, viscous material upon a casting belt moving in a first direction, said manifold comprising:

 a roller positioned such that a longitudinal axis of said roller is perpendicular to the first direction of said casting belt;

 a chamber, having an interior portion, disposed adjacent to said roller;

 said chamber having top, bottom, end, upstream and downstream face plates;

 said bottom face open to the casting belt along at least a part of the length of said bottom face;

 said downstream face open to the roller along at least a part of the length of said downstream face;

 said top face having at least one inlet; and

 said manifold capable of being mounted adjacent a casting belt in at least one mounting area.

8. The apparatus as claimed in Claim 7 wherein said roller comprises a stainless steel cylinder; and

 a plastic sleeve that is shrunk on to said cylinder.

9. The manifold as claimed in Claim 7 further comprising a drive mechanism connected to drive said roller.

10. The manifold as claimed in Claim 7 wherein said chamber has a plurality of inlets extending into said interior portion.

11. The manifold as claimed in Claim 10 wherein each of said inlets is attached to a corresponding adjustable valve.

12. The manifold as claimed in Claim 7 wherein said roller is set a fixed distance from the casting belt and a space is formed between a surface of the roller and the casting belt.

13. The manifold as claimed in Claim 7 wherein said fixed distance from the casting belt determines the final sheet thickness of said material.

14. The manifold as claimed in Claim 7 wherein the tandem movement of said roller and said casting belt draws the starting material from said manifold.

15. The manifold as claimed in Claim 7, wherein said manifold is removable so that more than one type of manifold may be interchangeably mounted in said mounting area.

16. A method for forming a thin continuous sheet of material from a molten, viscous starting material comprising the steps of:

- a. driving a casting belt in a constant direction;
- b. introducing said starting material through at least one inlet into a chamber of a manifold that is mounted in a mounting area so that the manifold sits adjacent the casting belt at a fixed distance and disposes said starting material onto said casting belt through an outlet;
- c. driving a roller in the same direction as said casting belt, said roller being attached to said manifold downstream of said outlet and above said outlet such that said starting material passes between said roller and said belt;
- d. drawing the starting material from said chamber through the tandem movement of the roller and the casting belt in the same direction; and
- e. dispensing a continuous sheet of material upon the casting belt as the belt is revolvingly driven.